

REMARKS

Applicants, their principal attorney, and the undersigned have carefully reviewed the non-final Office Action of January 12, 2007 in the subject U.S. patent application, in which the time for response is being extended herewith by one month, or until May 12, 2007, by the payment of the one-month extension of time fee (small entity) with the accompanying check No. 19980 in the amount of \$60.00, which check also includes an additional claims fee of \$200.00, together with the prior art cited and relied on by the Examiner in the rejections of the claims. In response, the claims previously pending in the application have been carried forward, and several additional claims have been added. It is believed that the claims now pending in the subject application are patentable over the prior art cited and relied on, taken either singly or in combination. Reexamination and reconsideration of the application, and allowance of the claims, is respectfully requested.

In the Office Action of January 12, 2007, the majority of the claims pending in the application were rejected under 35 USC 103(a) as being unpatentable over U.S. patent No. 5,328,372 to Reynaud in view of U.S. patent No. 5,564,929 to Alpert or as being unpatentable over Reynaud in view of U.S. patent No. 4,894,012 to Goldberg. In both of these rejections, the Examiner asserted that Reynaud shows a post comprising a bundle of non-metallic and non-woven fibers 5, in a resin 4. The Examiner then admitted that the Reynaud fibers are carbon fibers not glass fibers. With respect to the first basis of rejection, the Examiner then cited the Albert reference as disclosing the use of glass fibers. With respect to the Goldberg reference applied in the second rejection, it was asserted that Goldberg teaches the use of alternative fibers, including

carbon or glass for producing dental appliances.

The shortcomings of the Reynaud reference have been discussed at length in the prosecution of the subject application, which has now spanned more than six years. It was discussed in the specification of the subject application, as filed. It was discussed in the Amendments filed August 13, 2004 and January 5, 2005. It was also discussed in the Submission filed June 21, 2006, together with a Request for Continued Examination. As indicated throughout all of that prosecution, the Reynaud reference is directed to the use of carbon fibers, not glass fibers. Reynaud also fails to teach or to suggest other aspects of the invention, as also discussed in those prior references and Amendment.

In the prior prosecution, there is an extensive discussion of the Alpert reference and its possible availability as a reference, specifically with respect to the claims now pending in the subject application. Since the subject application relies on the filing date of September 27, 1993 of the parent application, which matured into U.S. patent No. 5,518,399, that patent's specification has been used as a basis for determining whether the structure described in connection with the fourth preferred embodiment, and which is set forth in the claims currently pending in the subject application, is entitled to the same interpretation as the structure described in the description of the first preferred embodiment. The Examiner has indicated it is not. The undersigned respectfully disagrees.

In the Response filed on November 1, 2006, the applicability of the language set forth in the parent Sicurelli patent, at Column 5, lines 42-57, to the discussion of the fourth embodiment, set forth at Column 7, starting at line 33 was asserted. That

discussion will not be repeated here. The Examiner is however requested to review it. The essence of that discussion was that both embodiments refer to a "post reinforcing rod." Note the discussion of such a "post reinforcing rod" at Column 5, line 53 and at Column 7, line 35. As was cogently argued in the November 1, 2006 response, the applicant is entitled to be his own lexicographer. He is not required to define the same term each time that term is used in the specification. One such definition is sufficient.

In the parent Sicurelli patent, the applicable phrase recites that the "post reinforcing rod" is preferably formed from reinforced plastic such as fiberglass polyester composites similar to those used in the construction of fishing poles, flexible ceramic resin composites, graphites, teflons, polycarbonates and the like. Note Column 5, lines 53-57. One reading the description of the fourth embodiment of the port 100, as depicted in Figs. 8 and 9, as including a post reinforcing rod would understand that phrase to be the same, in meaning, as the same phrase used at Column 5, lines 53-57.

In the interview conducted on October 19, 2006, the undersigned's partner Jennifer Yancy, Esq. discussed U.S. patent No. 2,571,692 with the Examiner. In prior remarks, the Examiner had stated his position that fishing poles were made of resin material that was reinforced with flecks or pieces of fiberglass within the cured resin. The fishing pole patent, No. 2,571,692 was presented by Attorney Yancy as positive evidence that fishing poles can be made using longitudinal strands of glass fiber in a synthetic resin. The thrust of her discussion was that a number of glass strands 12, each formed of several hundreds of unitary glass fibers 13, are embedded in a synthetic resin 11.

In the Office Action of January 12, 2007, in his reference to applicant's

arguments, the Examiner found them not to be persuasive. Specifically, the Examiner indicated that the embodiment shown in Fig. 8 was not entitled to rely on the language used to describe the embodiment of Figs. 1-3. The Examiner's position was that a "complete" teaching of the material used in the embodiment of Figs. 1-3 is "reinforced plastics such as fiberglass polyester composites similar to those used in the construction of fishing poles."

It is respectfully submitted that the Examiner's asserted "complete" reading is, in fact, not complete and that his conclusions are not correct. The language of the Sicurelli parent patent, at Column 3, lines 52-67 recited, in their entirety that "Core spacer 20 and post reinforcing rod 30 are preferably formed from reinforced plastics such as fiberglass polyester composites similar to those used in the construction of fishing poles, flexible ceramic resin composites, graphites, teflons, polycarbonates and the like." (Emphasis added). The use of a fishing pole is an example of the use of reinforced plastics, such as fiberglass polyester composites, as one kind of a plurality of reinforced plastics that could be used to form the post reinforcing rod 30 or the post reinforcing rod 130.

The Examiner has chosen to ignore the fact that the Dubois fishing rod patent was cited as an example of a fishing rod using longitudinal strands of glass fiber in a synthetic resin. He has chosen to overlook the fact that this citation was submitted to counter his allegation that fishing poles were made from resinous material including flecks or pieces of fiberglass within a cured resin. It is quite clear that the citation of the Dubois patent was for its teaching of the use of longitudinal strands of glass fiber in a synthetic resin. The Dubois reference was not submitted to somehow indicate that the

language of "post reinforcing rod 30" of Figs. 1-3 and the similar language of "post reinforcing rod 130" of Figs. 8 and 9 were somehow not the same because the Dubois patent teaches a relatively rigid rod that is somehow similar to the embodiment of Figs. 1-3 but not to the embodiment of Fig. 8.

The Examiner is requested to read the rest of the paragraph starting at Column 5, line 42 of the Sicurelli parent patent. It is specifically recited that the post reinforcing rod 30 flexibility is close to the flexibility of the natural tooth. That specific description of the flexibility that the post reinforcing rod 30 is provided with clearly refutes the Examiner's argument that the embodiment of Figs. 1-3 is a rigid one piece rod based solely on the Examiner's contention that the Dubois patent teaches a relatively rigid one piece rod. Dubois was cited solely for its teaching of a plurality of longitudinal strands of glass fibers in a synthetic resin. Dubois was selected as being exemplary of a number of fishing pole references that teach such longitudinal shunts, as opposed to flecks or pieces of fiberglass within a cured resin. The citation of the Dubois patent as one such example, cannot be construed by the Examiner as a teaching that the post reinforcing rod 30 of Figs. 1-3 is somehow rigid and the post reinforcing rod 130 of Figs. 8 and 9 is somehow different.

In Figs. 8 and 9, the post reinforcing rod 130 is formed from a bundle of reinforced plastic or other fibers cemented together. These are the same types of reinforced plastics or other fibers as are recited in connection with Figs. 1-3. These fibers are longitudinally arranged, similar to ones used in the construction of fishing poles. The fibers 101 depicted in Figs. 8 and 9 are also longitudinal strands.

The result of this rather lengthy analysis must be the conclusion that U.S. patent

No. 5,564,929 to Alpert is not available as a reference with respect to the claims now pending in the subject application. Its filing date of August 17, 1994 is almost a year subsequent to the filing date of the Sicurelli parent application, from which the subject application claims priority. Withdrawal of the Alpert reference in the rejection of the currently pending claims is respectfully requested.

The Alpert reference also fails to disclose the claimed invention, as recited in the claims now pending in the application. The post is claimed as being prefabricated and adapted to extend at least from adjacent the coronal end of a tooth canal toward the apical end of that tooth canal. In other words, the endodontic dental reinforcement post of the present invention is insertable, as a complete unit, in a tooth canal. In the Alpert patent there is disclosed a flexible rope-like root canal prosthesis. The cord is inserted into the root canal and is then held in place by the addition of a plastic material, such as a composite resin. This plastic material 34 is shown in Fig. 8 and is clearly separate from the rope-like root canal prosthesis.

In the subject device, the reinforcing rod 30 is placed in the tooth canal that has been sized to receive it. As discussed at Column 7, starting at line 5 of the parent Sicurelli patent, the reinforcing rod is placed into the root canal, as seen in Fig. 7. That drawing figure shows a tight fit of the reinforcing rod 30 into the tooth canal. While the core spacer 20 at the end of the reinforcing rod 30 can be formed by material injection, the reinforcing rod 30 is not a thin rope that is inserted into a much larger diameter tooth canal and which is then held in place with a surrounding injection of a separate plastic material 34. Even if Alpert were available as a reference, which it is not because of its subsequent filing date, it could not be combined with the Reynaud reference to

arrive at the claimed prefabricated endodontic dental reinforcement recited in the claims of the subject application. It is thus requested that the rejection of the claims as being obvious to one of skill in the art over Reynaud in view of Alpert be withdrawn. In the alternative, it is asserted that the combination of reference does not render obvious the subject invention, as claimed.

Turning now to the rejection of the majority of the claims under 35 USC 103(a) as being obvious over Reynaud in view of Goldberg, the following comments are believed to be relevant. The bulk of these comments will be directed to the Goldberg reference since the Reynaud reference has been discussed in detail in various prior Amendments and Responses. Suffice it to reiterate that the Reynaud reference does not teach or suggest the use of materials other than carbon fibers. In Reynaud, the carbon fibers are embedded parallel to each other in a resin matrix, to provide a desired elasticity. These carbon fibers are aligned parallel to each other and are elongated in an axial direction of a peg. The Reynaud reference discusses that the peg could be made of high strength fibers embedded in a resin. However, the term "high strength fibers" is too broad to be usable to identify a particular type of fiber. Thus, the recitation of the peg being made of a high performance carbon fiber embedded in epoxy resin is to be considered as the teaching of the material that Reynaud discloses. Absent some specific teaching or suggestion in Reynaud, one of skill in the art would not be motivated to utilize fiberglass fibers in the dental securing peg of Reynaud.

The Examiner admitted, in the Office Action of January 12, 2007, that the Reynaud reference is directed to the use of carbon fibers, not fiberglass. However, he indicated that Goldberg teaches the use of alternative fibers, including carbon or glass.

A review of the Goldberg reference finds the Examiner's position unsustainable.

In the Goldberg reference, U.S. patent No. 4,894,012 there is disclosed a dental appliance system that can be usable as an orthodontic retainer, as a bridge, as a space retainer, as a splint and the like. The dental appliance is formed from a fiber-reinforced composite material comprising a polymeric matrix and a reinforcing fiber component that is embedded in the matrix. In the Goldberg patent, the invention is directed to the provision of a passive dental appliance or structured component. These are nonforce-imparting and are intended to restore or to replace teeth, to retain natural teeth in a desired position subsequent to orthodontic treatment or tooth loss, to prevent migration, and to give added support to a weakened periodontium.

It is noted that all of the described uses of the passive dental appliances disclosed in Goldberg are external uses. The peg of Reynaud and the prefabricated endodontic dental reinforcement post of the present invention are positionable inside a tooth canal, not externally of the tooth. An analogous situation would be if Goldberg described a cast to be put on the exterior of a person's leg to hold the leg immobilized while a broken bone healed whereas Reynaud and the present invention would be directed to reinforcing pegs or posts placed in the interior of the broken leg to strengthen the leg while it healed.

The combinability of the Reynaud and Goldberg references, in any meaningful way, is doubted. Goldberg speaks of the use of metal alloys as having certain properties and the use of structural polymeric dental materials as having other properties. In accordance with the Goldberg invention, the passive dental appliance is fabricated from an effective fiber reinforced composite material that is composed

essentially of a polymeric matrix and a fiber component embedded in the matrix.

Goldberg recites that a variety of fibers may be used with the most common of these being glass, carbon and/or graphite and polyaramid fibers. A predominant number of the fibers are aligned along the longitudinal dimensions of a wire. It is believed that this reference to a wire is intended to refer to wires that are partially contoured to the teeth, to maintain their position. Again, it is clear that the Goldberg devices are all external devices which are not intended to be placed internally of a particular tooth.

It is not understood how the teachings of Goldberg can be combined in any meaningful way with the teachings of the Reynaud reference, to arrive at a combination which would render obvious the present invention. Merely stating in Goldberg that a glass fiber or a carbon fiber could be used in the formation of an externally positionable retainer would not lead one of skill in the art to restructure the carbon peg of Reynaud using a fiber material. The substitutability of two materials for one use is not evidence of the substitutability of the same materials for a very different use. Thus, it would not be apparent to one of skill in the art to substitute glass fibers of Goldberg for the carbon fibers of Reynaud. The two patents are directed to very different uses. The only common ground is that they are both for use with teeth. However, one is for use inside of teeth and the other is for use outside of teeth. The rejection of the various claims as being obvious over Reynaud in view of Goldberg is thus respectfully traversed.

Various ones of the dependent claims were rejected over Reynaud in view of either Alpert or Goldberg in view of another one of several tertiary references. Each one of these tertiary references has been reviewed and was discussed in one of the prior Amendments or Responses. None of these references are believed to provide the

features of the subject invention, as recited in independent claim 33 or in newly added independent claim 101. The claims now pending in this application are believed to be allowable over these additional references.

Newly added claims 101-104 recite the prefabricated endodontic dental reinforcement of the present invention as including a bundle of non-metallic, non-woven fiberglass fibers. A cured resin covers at least a central portion and a lower portion of the bundle of fiberglass fibers. That portion of the bundle of fiberglass fibers with the cured resin extends from at least the coronal end of the tooth into the tooth canal toward the apical end of the tooth canal. The non-woven fiberglass fibers are twisted with respect to the post axis.

It is believed that these claims are allowable over the Reynaud reference taken either by itself or in combination with the Goldberg reference for the same reasons that apply to claim 33 and the claims which depend from it. The reference to Alpert is not believed to be available for the reasons that were discussed above in connection with claim 33 and the claims that depend from it. Thus, newly presented claims 101-104 are also believed to be allowable.

In the application, as originally filed, there was a total of 29 claims, with two of those being independent. Additional independent and dependent claims were added during the prosecution of the application. It is believed that the total number of claims now pending in the subject application is greater than the number of claims previously paid for. Accordingly, an additional fee is believed to be required in connection with this submission. That fee is being paid by the accompanying check No. 19982 in the total amount of \$260.00. If any additional fee is required in connection with this submission,

it is authorized to be charged to the deposit account No. 10-1213 of the undersigned.

SUMMARY


It is believed that all of the claims now pending in the subject application are patentable over the prior art cited and relied on, taken either singly or in combination for the reasons set forth above. It is again asserted that the Alpert patent is not available as a reference because of its filing date. Four additional claims, one of which is independent, have been added. The fee for the submission of these additional claims, and the fee for the one-month extension of time are being paid by the accompanying check No. 19982 in the amount of \$260.00.

Allowance of the claims, and passage of the application to issue is respectfully requested.

Respectfully submitted,

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